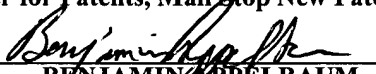


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By: 
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**APPLICATION FOR LETTERS PATENT OF
THE UNITED STATES**

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TITLE OF INVENTION: MOUSE TRAP

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Mouse Trap

Field of the Invention.

The present invention relates to traps for catching animals. In particular, the present invention relates to a trap for catching rodents. The animals are trapped alive, providing the user with the option to release the trapped animal into the wild, or to kill it, such as by drowning.

Background of the Invention.

Numerous types and styles of rodent and animal traps have been developed and described in the extensive prior art. The traps can be categorized as those which trap and kill the animal; those which have specifically been used to trap rodents, or those which trap the animal alive, leaving the disposition of the animal up to the user.

Several references illustrate different types of closure mechanisms. Morelli (U.S. Pat. No. 1,630,798) and Price (U.S. Pat. No. 2,454,476) show a slide means to close the trap.

Zaiser (U.S. Pat. No. 74,264) operates by means of a bait hook and an external door release mechanism. Schuckman (U.S. Pat. No. 1,255,798) discloses a trap having a bait bucket balancing a lever which controls the movement of a sliding door. Fisher (U.S. Pat. No. 1,759,048), Griffin (U.S. Pat. No. 1,648,765), Pendry (U.S. Pat. No. 2,163,961) and Stilborn (U.S. Pat. No. 2,586,110) are also examples of a trigger mounted in the upper part of the trap, and connected to a sliding trap door.

Kelley (U.S. Pat. No. 6,164,008) discloses a trap having an internal trigger mechanism connected to an external closure mechanism.

1 Cannon (U.S. Pat. No. 862,446), Erickson (U.S. Pat. No.
1,327,229) and Dresser (U.S. Pat. No. 1,383,416) demonstrate
3 spring-operated trap doors.

5 Lowrance (U.S. Pat. No. 1,170,649) discloses the use of a ball
seated in a notch as part of the trap setting mechanism.

7 Buttles (U.S. Pat. No. 26,883) discloses supporting the trap
door on uprights. Pead (U.S. Pat. No. 443,975) supports the trap
door on an extension rod, inside the trap. Similar mechanisms are
9 illustrated by Livezey (U.S. Pat. No. 1,399,630), Senecal (U.S.
Pat. No. 1,654,434), Hayden (U.S. Pat. No. 2,181,551) and Symens
11 (U.S. Pat. No. 2,478,605).

13 Hayden (U.S. Pat. No. 2,181,551) and Heldman (U.S. Pat. No.
2,216,644) illustrate trap doors containing notches to receive a
trip rod.

15 Goostrey (U.S. Pat. No. 2,460,417) shows a bait hook suspended
from an opening in the top of the trap, but whose trap door works
17 in a manner opposite to that of the present invention.

19 Long (U.S. Pat. No. 4,270,299) discloses a trap, comprising
a box propped up by a stick and connected to a string which is
attached to the other side of the box, and which string is placed
21 over a mouse trap.

23 Kao et al. (U.S. Patent Application Publication No. US
2003/0019148 A1 discloses a spring-loaded closure mechanism
connected to a bait hook, but which operates in a manner that is
25 distinctly different from that of the present invention.

27 In U.S. Pat. No. 742,953 Alphin discloses a trap that is
intended to be partially buried when used, with two sets of one-way
trap doors, such that it can be used to trap animals from above

1 ground, such as rodents, or moles which are tunneling below ground.

3 Specifically, Buttles (U.S. Pat. No. 26,883) discloses a cage
trap in which a sliding door is held open by a small pin projecting
5 from the front bar and passing through a hole in the door. Upright
bars extend just above the door when raised, and are operated by
7 the tipping down of the trap. As the upright bars are thrown back
by the tipping of the trap bottom, they strike the lower edge of
the door and throw it off the pin, releasing the door to slide
9 down.

11 Zaiser (U.S. Pat. No. 74,264) discloses an animal trap with a
sliding door connected to the bait hook. The upper part of the
door contains an opening, through which opening a setting rod
13 passes. The setting rod is supported upon a fulcrum, composed of
a curved spring plate which is biased towards the door. When the
15 bait is taken, detaining hook moves away from setting rod, causing
the setting rod to be moved by the spring in the direction of
17 closing the door, trapping the animal therein.

19 Bachman (U.S. Pat. No. 107,647) discloses an animal trap in
which the door is held in the open position by threads which are
attached to the bottom of the trap. Threads are passed over rear
21 end of a lever, which is pivotably supported between uprights, the
front end of the lever being attached to the door by a ring. To
23 operate, this trap requires the animal to gnaw on threads, and only
when the threads are gnawed through sufficiently will the lever be
25 shifted from its open position, and door will drop to trap the
animal within the trap.

27 In U.S. Pat. No. 443,975 Pead discloses a trap in which a bait
hook is suspended from transverse wire rod, suspended from the trap
29 top. A sliding gate contains an orifice, into which is inserted an
end of a trigger bar, supporting the gate in the open position.

1 When an animal touches the bait, the end of trigger bar is
dislodged and the gate is released to close the trap.

3 Skinner (U.S. Pat. No. 451,163) discloses a release mechanism
(Fig. 2) in which vertically sliding doors include longitudinal
5 openings through which extend projections, against which bear the
upper ends of springs. The upper ends of the doors are connected
7 by a rod, and a prop bar is attached between the ends of the rod.
When the trap is set and the doors are elevated, prop bar is
9 supported on a lever above the pivotal point. When an animal takes
the bait, one end of lever is pulled upon and depressed, forming an
11 inclined plane, down which slides the prop bar and the sliding
doors are released.

13 Cannon (U.S. Pat. No. 862,446) discloses a release mechanism
wherein a spring-wire is coiled about a pin or projection and one
15 end of spring wire engages the projection on the side of the cage,
and the other arm engages a projection extending from the inside of
17 the sliding door. The door is held open by a latch which is
slidably mounted in guides secured to the trap floor. When the
19 animal pulls on the bait, the bait-holder is rocked, withdrawing
the latch from the door and permitting the door to close under the
21 influence of the spring.

23 In U.S. Pat. No. 986,010 Kennedy discloses a trap having a
sliding door supported by a pulley. The release mechanism includes
an end of cable which holds the door, and forms a loop which is
25 placed around a spring member. When taking the bait, the animal
applies pressure to the trigger mechanism, causing spring member to
27 snap from under spring member, which is held to trigger by pin,
thereby causing the loop to leave spring member, and the door to
29 close.

31 In U.S. Pat. No. 1,327,229 Erickson discloses a trigger
mechanism, elements of which are outside the trap. A twisted

1 standard is in communication with a treadmill which will provide
bait. As the animal rotates the treadmill, the standard is drawn
3 out of engagement with a bracket, which bracket is urged downward
at its opposite end by a spring, releasing the door to entrap the
5 animal.

Dresser (U.S. Pat. No. 1,382,416) discloses a trap with a door
7 being slidably mounted within spaced vertical guides, and a
trigger mechanism. The trap works in two stages, and employs two
9 different mechanisms to keep the door open. In its first stage,
that of "training" the animal to get used to the trap, the door is
11 held open by a bolt positioned within aperture of the door; the
bolt is spring controlled.

13 After the animal has been acclimated, the second stage
involves actual use of the trap to entrap the animal, using a
15 second trigger mechanism that includes a treadle connected to a
sliding pin; when the treadle is depressed by the weight of an
17 animal, the pin is removed from an aperture in the door. The
treadle includes a pair of ears pivotably connected to links to an
19 arm of ball crank lever. The other arm of ball crank lever is
joined to sliding pin. A spring urges the door to its closed
21 position when sliding pin has been withdrawn from the door.

In U.S. Pat. No. 2,454,476 Price discloses an animal trap with
23 a stationary door secured to the base of one chamber. When the
bait-holding tilting pan is tripped, spring-activated chamber is
25 released from trapping mechanism, and the chamber is rotated by
action of tension spring to bring an opening in alignment with the
27 stationary door, trapping the animal.

Roman (U.S. Pat. No. 2,748,526) discloses a tunnel-like
29 chamber divided into compartments, with the bait box being mounted
within the center section on a tilting platform. When the animal

1 touches the platform, it releases an arm, which releases a member,
allowing the plate to drop down under the force of a weight. The
3 blade can either go through slots to close the chamber, or can be
attached to flanges to kill the animal.

5 In U.S. Pat. No. 4,706,406 Mowatt et al. disclose a trap
intended mainly for beavers and otters, and which is designed to be
7 placed partially submerged. The trap has two gravity operated drop
gates. The trap is set by means of a cocking mechanism.

9 Latches hold the gates in raised position when the trap is
set, these latches are connected to transverse rods. The tripping
11 mechanism includes two trip wires welded to and depending
downwardly from a rotatable shaft, which extends across the center
13 of the trap and is held by brackets joined below the center of the
longitudinal rods. When an animal touches the trip wires, the
15 shaft is rotated slightly, causing the rod to come free, and other
shafts rotate slightly with the latches releasing both of the end
17 gates simultaneously, which gates drop by gravity.

19 Wynn et al. (U.S. Pat. No. 4,912,872) discloses a release
mechanism comprising a trip treadle connected to a pivot rod, which
is pivotably mounted in hinges, actuating rod to move and remove
21 end from its supporting engagement with door, which falls by
gravity from its open position to a closed position.

23 In U.S. Pat. No. 1,170,649 Lowrance discloses a multi-
chambered animal trap, divided by partitions with mirrored faces to
25 attract animals into the trap. A trip plate is at the base of each
chamber; a wire frame follows the contour of the base, and the
27 corners of the wire frame have an upwardly opening guide socket.
A flexible cord or chain rises through each socket, the chain
29 having a ball provided at its inner end, the ball being adapted for
seating within a notch in a flange which is supported on standards

1 which rise from the base. The trap is set by raising the cage
members, and seating the ball within the notch, thereby holding the
3 trap in the set position.

5 When the animal steps on the trip plate, an arm and a pin are
engaged and unseats the delicately poised ball from the notch, and
the cage drops to trap the animal. A weight is positioned at the
7 outer corner of each cage to insure a quick fall.

9 Long (U.S. Pat. No. 4,270,299) discloses a mouse trap
comprising a transparent box hinged to its base and held open by a
prop. A string is attached to the prop on one end and to the box
11 side on the other end. A spring mouse trap is under the string,
such that when a mouse trips the spring trap, hold down rod will
13 strike the spring and instantly pull the prop out of the openings
and the box will drop, trapping a mouse instantly.

15 Batman (U.S. Pat. No. 6,178,686 B1) discloses a skunk trap,
the closure mechanism being a slicing closure door which closes by
17 pivoting at one end to close the trap. A biasing member operates
to bias the door towards the closed position.

19 Bachman (U.S. Pat. No. 107,647) discloses an animal trap in
which the door is held in the open position by threads which are
21 attached to the bottom of the trap. Threads are passed over rear
end of lever, which is pivotably supported between uprights, the
23 front end of lever attached to the door by a ring. To operate,
this trap requires the animal to gnaw on threads, and only when the
25 threads are gnawed through sufficiently will the lever be shifted
from its open position, and the door will drop to trap the animal
27 within the trap.

29 In U.S. Pat. No. 443,975 Pead discloses a trap in which a bait
hook is suspended from transverse wire rod suspended from the trap
top. A sliding gate contains a small orifice, into which is

1 inserted an end of trigger bar, supporting the gate in the open
position. When an animal touches the bait, the end of trigger bar
3 is dislodged and the gate is released to close the trap.

Skinner (U.S. Pat. No. 451,163) discloses a release mechanism
5 in which vertically sliding doors include longitudinal openings
through which extend projections, against which bear the upper ends
7 of springs. The upper ends of the doors are connected by a rod,
and a prop bar is attached between the ends of the rod. When the
9 trap is set and the doors are elevated, the prop bar is supported
on a lever above the pivotal point. When an animal takes the bait,
11 one end of the lever is pulled upon and depressed, forming an
inclined plane, down which slides the prop bar and the sliding
13 doors are released.

In U.S. Pat. No. 986,010 Kennedy discloses a trap having a
15 sliding door supported by a pulley. The release mechanism includes
a cable end holding the door, the cable end forming a loop which is
17 placed around a spring member. When taking the bait, the animal
applies pressure to a trigger mechanism, causing a spring member to
19 snap from under a second spring member, which is held to the
trigger by a pin, thereby causing the loop to leave spring member,
21 and the door to close.

In U.S. Pat. No. 1,139,849, Collins discloses a trap
23 comprising a sliding door in guides. A trip plate located on the
trap bottom, when depressed comes in contact with and depresses
25 rock shaft, transferring motion to the latch mechanism to withdraw
the latch pin from the door, and permit the door to close. The
27 lower edge of the door rests on the latch pin.

In U.S. Pat. No. 1,399,630 Livezey discloses a release
29 mechanism, wherein a gate slides vertically between two pairs of
spaced guides. A rod is bent at its rear end to form trigger;
31 first end of rod is positioned beneath the shoulder on the gate.

1 Inner end of a nail forms the shoulder; the nail is used to raise
the gate from the outside. When a rodent takes the bait, the rod
3 will be moved, and will shift the end from engagement with the
shoulder, thereby permitting the gate to close by gravity and trap
5 the animal.

In U.S. Pat. No. 1,648,765 Griffin discloses a release
7 mechanism wherein baited hook passes through the top of the trap,
where it is pivotably attached to a crossbar, and when the hook is
9 moved, looped portion is removed from a detent in the trap door,
which then falls via gravity.

11 Senecal (U.S. Pat. No. 1,654,434) discloses a board having an
opening with a cutaway at its upper end. The door slides along
13 board, and includes a central pin for raising or lowering the door.
The bait hook is connected by a rod to a plate, and the lower edge
15 of the door rests on a portion, and when bait is applied, an
extremely slight movement of the strip thus provided will cause the
17 movement of a plate, loosely suspended from pin, and this movement
will release the door, allowing it to fall by gravity.

19 In U.S. Pat. No. 1,735,786 Pearl discloses a trap door being
slidably mounted in channels for up and down movement. When the
21 bait holder is moved from its set position by a rodent nibbling on
the bait, a latch rod is disengaged from a shoulder means, causing
23 elastic bands to quickly close the trap door.

Fisher (U.S. Pat. No. 1,759,048) discloses a trigger
25 mechanism. The door is connected by a cable at one end, the rear
end of the cable is connected to the trigger via a cable. The
27 trigger has a notch which engages the margin of an aperture in the
top of the bait chamber. When the animal nibbles the bait, the
29 trigger is dislodged from the margin, causing the door to close by
gravity.

1 In U.S. Pat. No. 1,850,634 Pairo discloses an animal trap
having guides in which a vertically sliding closure operates. Lug
3 on inner surface is urged by spring to keep closure open. Treadle
is connected to lug by means of two rods which pass through the top
5 of trap and pivotably connect with a latch which is connected by a
link to bolt.

7
Burnley (U.S. Pat. No. 1,963,435) discloses a rat trap that
9 includes a sliding door mounted in guides. The door is provided
with a lug on its inner side which is engaged by hook or latch,
11 connected to an end of trip arm or lever. The trip arm is pivoted
near the end wall by a pin mounted in the body, and the lever is
13 weighted. When the trigger is released, a member drops under the
influence of spring, such that the trip lever becomes unsupported,
15 causing the door to be slightly raised until short end of the lever
clears the lug, whereupon the door will drop by gravity.

17 In U.S. Pat. No. 2,163,961 Pendry discloses a trap door that
slides vertically in grooves. A housing contains a hole in its
19 top, through which a finger slides up and down. The finger has a
notch which engages a plate on the top of the housing. The finger
21 is connected by a bar to the trap door, and a spring acts on the
finger/bar mechanism. A post acts as a fulcrum for movement of the
23 bar. When an animal takes bait, the trigger is moved, moving notch
out of engagement with a plate at which time the gravity of the
25 trap will cause it to fall and the bar will be moved to the closed
position.

27 Hayden (U.S. Pat. No. 2,181,551) discloses a trap which can
capture animals alive, but is also equipped with a bar or lever to
29 kill the animal, such as a rodent. The sliding door may be
provided with a small notch in its lower end to rest upon the end
31 of the longitudinal rod. The trigger member is a loop formed to
effectively block the entrance to the bait chamber, but when moved,
33 displaces longitudinally extending rod, whose other end is

1 supporting the door in the open position, either by the door
resting upon the rod, or with the rod being received in the door
3 notch, causing the door to drop and entrap the animal.

In U.S. Pat. No. 2,216,644 Heldman discloses a trap having a
5 vertically sliding door which is movable in position obstructing
the entrance opening of the chamber, and also is movable vertically
7 into a nonobstructing position. The door includes a vertically
extended T-shaped opening comprising a vertically positioned slot
9 terminating in horizontally positioned slots formed in the door,
the slots being centrally located whereby the horizontally
11 extending branches of the T-shaped latch element are positionable.
When the treadle is in the normal position, the T-shaped latch
13 element engages one of slots, but when the treadle is moved, the
element is disengaged therefrom, allowing the door to drop.

15 Goostrey (U.S. Pat. No. 2,460,417) discloses a trigger
mechanism, wherein bait on a hook is suspended from a cork mounted
17 in a hole on top of the trap. To re-bait, the cork is withdrawn
from the opening. A plate is vertically slidable, and has an
19 opening that corresponds to and aligns with an opening when the
trap is set. When the trap is sprung, a spring causes the door to
21 be moved upwards, as cross-over portion acts on ledge or shoulder
of plate, in a manner that is opposite to that described for the
23 present invention.

25 Symens (U.S. Pat. No. 2,478,605) discloses an internally
positioned trigger mechanism. When the animal tries to take bait
from the hook, a rod is drawn rearwardly, withdrawing its tip from
27 its position supporting the sliding door, allowing the door to fall
and caging the animal,

29 Stillborn (U.S. Pat. No. 2,586,110) discloses a trigger
mechanism in which gates are connected by cables to a trigger which
31 is connected to a treadle by means of trigger rod. The gates are

1 raised by looping one end of the cable over the lever arm end of
the trigger. When the treadle is depressed, trigger rod is lowered
3 and rotates to a position approaching the horizontal, slipping the
cable ends and allowing the gates to drop.

5 Gardner (U.S. Pat. No. 2,752,722) discloses a release
mechanism, such that when a rodent bites the head of the trigger
7 pin, the trigger pin is pulled inwardly, causing the trigger bar to
be released, allowing the trap door to close.

9 In U.S. Pat. No. 2,475,462 Rosen discloses a trap door
slidably mounted in flanges, and which is retained in an upward
11 position, based on how the trap is balanced on a transverse pivot
located underneath the trap. When an animal enters the trap, its
13 weight causes a shift, causing the trap door to drop, and which is
held in place by a user-operated latch.

15 Giacoletto (U.S. Pat. No. 2,574,780) discloses a trap
comprising multiple chambers for trapping animals. Each trap
17 includes a vertically movable closure gate in guide strips and
vertical strips. A depending rod is frictionally disposed within
19 an opening in a rotor, which pivotably connects at its lower end to
a link bar. The link bar receives a crank end of a crank shaft,
21 which crank shaft connects to a bait arm. When a rodent engages
the bait and pulls downwardly, the crank shaft will be rocked and
23 the rod pulled to rotate rotor and swing pintle away from wall,
releasing the gate and trapping the animal.

25 In U.S. Pat. No. 5,778,594 Askins et al. discloses a
collapsible animal trap having two trap doors, one on each end, and
27 which are controlled by a trigger mechanism mounted on the top of
the trap. A trip pan in the base of the trap is connected by
29 cables to the trigger mechanism, such that when an animal steps on
the trip pan, the trip pan pivots in one or other directions,
31 causing one or other of the cables to pull on its respective cam

1 member arm thereby rotating the cam member somewhat in a clockwise
direction. This movement causes the cam surfaces to release the
3 inner ends of the rods which then spring inwardly towards the cam
member so that the outer ends of the rods are released from the
5 apertures in the doors thereby allowing the door to slide closed
and trap the animal. The trigger mechanism is mounted on the top
7 of the trap.

Conover (U.S. Pat. No. 5,867,934) discloses a release
9 mechanism, comprising a swingingly mounted removable bait holder
having a J-shape. A hinge element is sized to fit over the bait
11 holder hanger. When the trap is set, a knob is pushed toward a
header, causing trap door supporting segment to extend, supporting
13 trap door. When the animal takes the bait, movement of the bait
holder pushes knob in such a manner that door supporting segment is
15 removed from under door, causing trap door to fall.

In the Conover invention, the bait holder can be removed from
17 the trap for re-baiting, but this can only be accomplished by
removing the wire mesh cover, whereas in the present invention the
19 trap can be rebaited without removing the bait holder from the
trap.

21 In U.S. Pat. No. 6,164,008 Kelley discloses a release
mechanism that is mounted outside of the trap and connected to a
23 trip pad on the inside of the trap. The trap includes a door
slidably mounted for up and down movement within guides. The
25 invention has a crank bell wheel which rotatively translates a
vertically directed force exerted upon trip link into a
27 horizontally directed force which, compressing spring, and urging
set and lock rod out of engagement with an opening in the door,
29 allowing the trap to close.

Thus, the prior art illustrates a number of different types of
31 traps, having different doors and door configurations; having

1 different types of trip mechanisms, both within and external to the
trap; different ways of trapping the animal alive or dead, and for
3 trapping one or more animals therein. But as will be shown in this
specification herein, the combination of sliding door mechanism,
5 bait holder, and trip mechanism is not shown or taught by the prior
art.

7
The present invention is a mouse trap designed to trap the
9 animals alive, so that they can be released elsewhere, or immersed
in water and drowned prior to disposal. The trap is box-like,
11 being fabricated from plastic, with a sliding trap door at one end.
The trap has an opening in its top surface, through which a bait
13 holder is suspended. The bait holder is also box-like, being
positioned towards the back of the trap. The bait chamber has an
15 opening on one side, allowing an animal to take the bait, and the
bait chamber is open at the top. The bait holder can be filled by
17 inserting bait into the bait chamber using an opening in the top of
the trap, or inserting it through the open trap door. The bait
19 holder is pivotably connected to a trip mechanism, which includes
a prop mounted towards the end positioned near the trap door. The
21 prop is thus positioned towards the front end of the trap, where it
acts as a support mechanism to prop the trap door in the open
23 position.

The trap door is notched, and, when the trap is set, the trap
25 door is balanced upon the prop. When an animal takes the bait from
the bait chamber, the trip mechanism is moved, moving the prop from
27 under the trap door, and causing the door to drop and trap the
animal within the trap.

29 This inventor has found that the present invention is
particularly useful for trapping field mice. Because these mice
31 are small, with their small size and weight, this inventor has
found that they avoided being trapped using a conventional, spring-
33 loaded traps. These mice were able to take the bait from the

- 1 conventional trap without tripping the trap, but were successfully captured using the present invention.

1 Brief Summary of the Invention.

3 An object of the present invention is to provide a trap that
can be used to capture a variety of animals.

5 Another object of the present invention is to provide a trap
that can be used to capture small rodents.

7 Yet another object of the present invention is to provide a
trap in which the user has the option to release the trapped
animal, or to kill it.

9 Another object of the present invention is to provide a trap
that can be produced from a variety of different materials, and
11 produced in a variety of different sizes, so as to be usable with
different animals.

13 Another object of the invention is to provide a trap that is
economical to manufacture, yet sufficiently durable as to be
15 reusable.

17 Yet another object of the present invention is to provide a
trap that can be considered disposable.

19 The present invention is an animal trap comprising a trap body
with a sliding trap door at one end. A bait holder is pivotably
mounted on the top of the trap body, the top including an opening
21 through which the bait holder is inserted into the trap body. The
bait holder is connected to a trip mechanism, which includes a rod
23 having a ball mounted thereon. The ball is positioned towards the
front end of the trap, the ball being a support mechanism that
25 balances the trap door in an open position. When an animal enters
the trap and takes the bait, the bait holder is pivoted, moving the
27 trip mechanism to upset the balance of the trap door on the rod,
thereby closing the trap and retaining the animal therein.

1 Description of the Several Views of the Drawing.

Fig. 1 is a side view of an embodiment of the present invention.

3 Fig. 2 is an exploded front view of the present invention;

Fig. 2A illustrates the front end of the trap body;

5 Fig. 2B illustrates the first support, which is joined towards the front end of trap body;

7 Fig. 2C illustrates the trap door and the spacers which separate the trap door from the first support and the front end of trap

9 body; and

11 Fig. 2D illustrates the retaining piece, between which retaining piece and spacers the trap door moves.

13 Fig. 3 is a top view of an embodiment of the present invention, shown without the bait holder and trip mechanism.

Fig. 4 is a side view of the bait holder.

15 Fig. 5 is a front view of the bait holder.

Fig. 6 is a side view of the trip mechanism.

1 Detailed Description of the Invention.

3 An embodiment of the present invention is shown in Fig. 1, as
trap 10. The trap 10 comprises a body 12 which includes a bottom
5 member 14, side members 16, ends 18 and 20, with end 18 being the
back end and end 20 being the front end. The trap includes top
7 member 22. In the embodiment shown in Fig. 1, the trap has a
generally rectangular body, but other configurations, such as
9 tubular, oval, partially circular or the like are also feasible and
are considered to be within the scope of the present invention.

11 The bottom member 14, side members 16, rear end 18 and top
member 22 are generally flat.

13 Front end 20 (shown in greater detail in Fig. 2) comprises a
first support 122, which is attached inside a slot 24 formed in
each side of the side members 16 at their end 20. A pair of
15 spacers 26, are attached external to first support 122. External
to the spacers 26 and attached thereto is a retaining piece 28,
17 which includes a pair of downwardly extending legs 30. Within the
body of retaining member 28 is a notched region 32. Notch 32
19 functions as a stop means to limit the upward movement of trap door
40 by engaging lift knob 42 when it slidably moves within notch 32.
21 A second notch 36 is present along the top portion of retaining
member 28, and, as will described later, allows for movement of the
23 trip mechanism 110 and setting of the trap door 40. An entrance 38
is formed when the trap door 40 is moved to its upward position.

25 The spacers 26 form a gap 34 between the front end 20 and the
retaining piece 28, allowing trap door 40 to slidably move up and
27 down therein (Fig. 3).

29 Trap door 40 comprises a lift knob 42 attached to its outside
surface, and a channel 44 (Fig. 2C). The channel is defined by a

1 longitudinal slit 46 that is bordered by arcuate ends 48 and 50,
the upper, or first end 48 being smaller in diameter than the
3 lower, or second end 50.

5 Top member 22 is generally flat, and includes a notched
opening 52 at its front, and a second opening 54 towards its back.
7 Notched opening 52 joins second notch 36, allowing for movement of
the trip mechanism 110. Second opening allows for movement and
9 loading of the bait chamber 66 (Fig. 3).

11 A retaining means 56 is attached to top member 22 between the
openings 52 and 54. In the embodiment shown herein, retaining
means 56 is a metallic loop, and is attached by an adhesive after
13 passing a portion of its lower members 58 through the openings 60
formed in top member 22. Alternatively, retaining means 56 can be
15 a metal loop having threaded ends, inserted through openings 60,
and held in place by fasteners such as a nut or the like. The
17 retaining means 56 can also be attached by means of adhesives,
epoxies, welding, soldering, or other means of joining and/or
19 attachment, as known to those skilled in the art, the means of
attachment also being dependent upon the materials of which the top
21 member 22 and the retaining means 56 are made, such as from other
metals, plastics, composites, or the like. Retaining means 56
23 limits the upward movement of the trip mechanism 110.

25 Attached to the top member 22 proximate the second opening 54,
and extending through the second opening 54 is bait holder 61.
Bait holder 61 comprises an elongated body 62 including a wide
27 portion 64 which forms the back member 64 of bait chamber 66, and
a narrow portion 68 connected to the wide portion 64 by a tapered
29 portion 70 (Figs. 1, 4-5).

31 Bait chamber 66 further comprises a pair of side members 72,
a bottom member 74, and front member 76. Bait chamber 66 is open

1 at the top, and front member further includes an opening 78 from
which opening 78 an animal can take the bait (not shown). The bait
3 can be any type of bait that is appropriate for the animal being
trapped. Thus, for rodents, for example only and not intended as
5 any limitation, the bait can be selected from crackers, peanut
butter, grains such as corn, rice or wheat, or other bait items
7 known to those skilled in the relevant art. The open top allows
the bait to be inserted into the bait chamber 66, which can be done
9 either by opening the trap door 40 and filling the bait chamber
from inside the trap, or applying the bait through the second
11 opening 54 in top member 22. Most users will probably find it
easier to insert bait into bait chamber 66 by filling it from the
13 inside through the open trap door 40.

15 Narrow portion 68 of bait holder body 62 includes a trip
mechanism receiving means 80 and a boss 82 proximate its distal end
17 (i.e., the end that is furthest from the bait chamber 66). Trip
mechanism receiving means 80 includes a pair of walls 84, each wall
19 containing an opening 86, through which opening is placed a first
pivot pin 88 to pivotably receive the first end 112 of trip
21 mechanism 110 in the gap 90 between the walls 84.

Attached to top member 22 is a pair of mounting brackets 92,
23 mounting brackets 92 being positioned on each side of second
opening 54. Each mounting bracket 92 includes a base 94 and an
25 upright 96, each upright including an opening 98 therein. Boss 82
contains an opening 100, and the openings 98 and 100 are aligned
27 such that bait holder body 62 is pivotably joined to the mounting
brackets by means of a pivot pin 102 inserted through the openings
29 98 and boss 82.

Between the bait holder 58 and the trap door 40 is a trip
31 mechanism 110. Trip mechanism 110 is a rod which is inserted
through retaining means 56; the trip means first end 112 is

1 pivotably received within trip mechanism receiving means 80. First
end 112 is shaped and sized so that it can be received within boss
3 82. In the embodiment shown herein, first end 112 is flat, and
includes an aperture 114 through which first pivot pin 88 is
5 inserted. Second end 116 extends past the retaining piece 28, and
a prop 118 is attached to the trip means towards second end 116.
7 Prop 118 is positioned within second notch 36 in retaining means
28, where it supports the trap door 40 when the trap door 40 is in
9 the open position. Trip mechanism 110 is a hollow rod into which
a small weight 120 has been inserted. Alternate embodiments of the
11 trip mechanism can employ solid rods, bars, wire, or equivalents
thereof.

13 In the embodiment shown herein, prop 118 is frictionally
retained on trip mechanism 110, but in other embodiments prop 118
15 is threadably attached to the trip mechanism, or retained by means
of a fastener such as a nut and bolt, adhesives, or other means of
17 attachment known to those skilled in the art.

19 In use, the trap is baited, placed in the desired location,
and set. To set the trap 10, the trap door 40 is slid to its
21 uppermost position, and prop 118 is placed within channel 46,
within first end 48, such that the trap door 40 is balanced on top
23 of prop 118. The trap is ready for use. When an animal enters the
trap through entrance 38, it proceeds towards the bait holder 58
25 suspended near the back of the trap. As the animal takes bait from
bait chamber 66, movement of the bait chamber 66 moves trip
27 mechanism 110, disrupting the balance of trap door 40 on prop 118,
causing trap door 40 to fall rapidly, and thereby trap the animal
29 within trap 10.

31 This inventor has found that the present invention is
particularly useful for trapping field mice. Because these mice
are small, with their small size and weight, this inventor has

1 found that they avoided being trapped using a conventional, spring-
loaded traps. These mice were able to take the bait from the
3 conventional trap without tripping the trap, but were successfully
captured using the present invention.

5 After the animal has been trapped, with the trap door 40
closed, water can be poured into the trap through the openings in
7 the top 22 and the trapped animal drowned. Alternatively, one can
release the trapped animal.

9 Embodiments of the present invention can be manufactured using
inexpensive materials, thus making the trap disposable if a user
11 does not want to deal with the trapped animal or reusing the trap.

13 In the embodiments shown herein, the trap has been
manufactured from plastic, and the various components have been
joined using an appropriate adhesive.

15 The present invention is a lightweight trap, manufactured from
a transparent plastic, such as polycarbonate, polypropylene, or
17 other materials. However, materials such as polyvinyl chloride
("PVC"), or other plastics, or other materials, including
19 composites of plastics with other materials, or metals such as
steel, stainless steel, aluminum, wire or wire mesh, or the like
21 can be substituted for a transparent plastic. The size of the trap
can be scaled up to accommodate large animals, provided that the
23 materials used in its construction are sufficiently strong to
retain the trapped animal therein.

25 Therefore, although this invention has been described with a
certain degree of particularity, it is to be understood that the
27 present disclosure has been made only by way of illustration, and
that numerous changes in the details of construction and
29 arrangement of parts may be resorted to without departing from the

1 spirit and scope of the invention.